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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,830

02/22/2006

Kenneth J Hsu

6661/PCT

3183

6858 7590 06/17/2009

BREINER & BREINER, L.L.C.

P.O. BOX 320160

ALEXANDRIA, VA 22320-0160

EXAMINER

HRUSKOCI, PETER A

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

06/17/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/564,830	<b>Applicant(s)</b> HSU, KENNETH J	
	<b>Examiner</b> /Peter A. Hruskoci/	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7,8,13,14,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14,16 and 17 is/are allowed.
- 6) ☒ Claim(s) 7,8, and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/21115 Bellinger et al. in view of Adey 5,851,398. Bellinger et al. disclose (see pages 3-6) a process for suppressing growth of green algae substantially as claimed. The claims differ from Bellinger et al. by reciting that the carbon dioxide is produced by burning of fossil fuels or lime. Adey disclose (see col. 12 line 52 through col. 3 line 16) that it is known in the art to adjust the pH of water with carbon dioxide gas produced at a fossil-fuel burning facility. It would have been obvious to one skilled in the art to modify the process of Bellinger et al. by utilizing the recited carbon dioxide in view of the teachings of Adey, to aid in acidifying the water .

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/21115 Bellinger et al. in view of Adey as above, and further in view of Busch. The claim differs from the references as applied above by reciting that the aqueous system is waste water, and the waste water is acidified with the carbon dioxide prior to being emptied into a lake or river. Busch disclose (see col. 2 line 51 through col. 5 line 44) that it is known in the art to treat waste water effluent with carbon dioxide to reduce the pH prior to releasing the effluent to a disposal stream. It would have been obvious to one skilled in the art to modify the references as applied above by treating the recited waste water in view of the teachings of Busch, to aid in acidifying the waste water and suppressing algae growth prior to release into a lake or river.

Claims 14, 16, and 17 are allowable.

Applicant argues that Bellinger does not teach the source or manner of obtaining carbon dioxide. It is submitted that Bellinger discloses on page 3 that the pH modifying agent can be a purified industrial gas such as carbon dioxide. It would appear that the carbon dioxide utilized in Bellinger would include carbon dioxide recovered from industrial produced waste containing carbon dioxide as recited in the instant claims.

Applicant argues Adey teaches growth of algae to provide algal turf through pH adjustment, and Bellinger has the opposite intended purpose of controlling or preventing algal growth by using carbon dioxide to increase the acidity of water containing algae. It is submitted that the carbon dioxide utilized in Adey appears to be used for the purpose of lowering the pH of the water and increasing the acidity of the water. Furthermore, the specific source of carbon dioxide utilized to increase the acidity of the water, would have been considered an obvious matter of process optimization to one skilled in the art, depending on the specific water treated and results desired, absent a sufficient showing of unexpected results.

Applicant's arguments concerning Busch are based on the propriety of the combination of Bellinger and Adey. This combination is deemed properly applied, for reasons stated above.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Peter A. Hruskoci/ whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter A. Hruskoci/  
Primary Examiner  
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6/16/09

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